

REMARKS

This Request for Reconsideration (hereafter “Request”) is fully responsive to the final Office Action dated November 18, 2009, issued in connection with the above-identified application. Claims 1-17 are pending in the present application. With this Amendment, no claims have been amended and no new matter has been introduced. Favorable reconsideration is respectfully requested.

In Office Action, claim 12 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse (U.S. Pub. No. 2002/0183026, hereafter “Naruse”) in view of Markman (U.S. Pub. No. 2003/022966, hereafter “Markman”) and Delavega (U.S. Pub. No. 2005/0034158, hereafter “Delavega”).

The Applicants assert that the above cited prior art fails to disclose or suggest all the features recited in independent claim 12.

Independent claim 12 recites the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units, each being configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path;

a content reconstruction unit having a buffer in which the pieces of segmented data received by a corresponding one of said plurality of communication units is temporarily accumulated, and configured to reconstruct the pieces of segmented data accumulated in the buffer into the content;

a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit;

a communication fee accumulation unit configured to accumulate, in advance, communication fees of the respective communication units; and

a communication control unit configured to:

determine a use order of said plurality of communication units based on the communication fees accumulated in the communication fee accumulation unit,

calculate, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on the determined use order, free space in the buffer and the bit rate; and

transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said plurality of communication units.” (Emphasis added).

The features emphasized above in independent claim 12 are fully supported by the Applicants’ disclosure (see e.g., ¶ [0058]; ¶ [0059] and Fig. 4).

The present invention (as recited in independent claim 12) is directed to a content reproduction device that is characterized by (i) a communication fee accumulation unit configured to accumulate, in advance, communication fees of respective communication units; and (ii) a communication control unit configured to determine a use order of the plurality of communication units based on the communication fees accumulated in the communication fee accumulation unit. As noted above, the communication fees are accumulated, in advance, in the communication fee data accumulation unit for the respective communication units.

In the Office Action, the Examiner relies on Naruse, Markman and Delavega for disclosing or suggesting all the features of independent claim 12. However, the Examiner relies primarily on Delavega for disclosing or suggesting the features emphasized above in independent claim 12.

Delavega discloses a method of providing image content from at least one mobile content provider, coupling the image content from the mobile content provider to a network, presenting the image content from the mobile content provider for selection, and selecting the content. In the Office Action, the Examiner relies specifically on ¶ [0018] and ¶ [0048] of Delavega.

Delavega ¶ [0018] and ¶ [0048] discloses that a viewer “previously purchases program content...” Additionally, Delavega also discloses that “... in a WAN/Wi-fi base station, a receiver receives data at up to 54 mbps and in cellular wireless network, data speed is ranging 50 to 144 kbps” (see ¶ [0027] and ¶ [0028]).

However, as noted above, Delavega is focused on the costs of content *per se*, which is different from the communication fees of the present invention (as recited in independent claim 12). Thus, the Applicants assert that Delavega fails to disclose or suggest the use of

communication fees as recited in independent claim 12. Additionally, as noted above, Naruse, and Markman are not relied on by the Examiner for disclosing or suggesting the above features. Accordingly, no combination of Naruse, Markman and Delavega would result in, or otherwise render obvious, independent claim 12.

In the Office Action, claims 1-4, 6-11, and 13-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Naruse in view of Markman and Delavega, and further in view of Omura et al. (U.S. Pat. No. 6,430,620, hereafter “Omura”).

The Applicants assert that the above cited prior art fails to disclose or suggest all the features recited in independent claims 1 and 7-9.

Independent claim 1 recites the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

- a plurality of communication units, each being configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path;

- a content reconstruction unit having a buffer in which the pieces of segmented data received by a corresponding one of said plurality of communication units is temporarily accumulated, and configured to reconstruct the pieces of segmented data accumulated in the buffer into the content;

- a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit; and

- a communication control unit configured to:

 - calculate, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on free space in the buffer and the bit rate; and

 - transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said plurality of communication units,

wherein the pieces of segmented data each includes a counter indicating an order of the segmentation performed by said content transmission device, and

said content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in the order of values indicated by said respective counters.” (Emphasis added).

The features emphasized above in independent claim 1 are similarly recited in independent claims 7-9. Additionally, the features emphasized above in independent claim 1 (and similarly recited in independent claims 7-9) are fully supported by the Applicants’ disclosure (see ¶ [0136]).

The present invention (as recited in independent claims 1 and 7-9) is distinguishable from the cited prior art in that each piece of segmented data includes a counter indicating an order of the segmentation performed by a content transmission device, and a content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in order of values indicated by the respective counters.

In other words, the counter of the present invention (as recited in independent claims 1 and 7-9) is used for reading the pieces of segmented data from the buffer temporarily accumulating the pieces of segmented data received by a corresponding one of the plurality of communication units. Therefore, streaming reproduction of the content even in the case where the maximum value of the transmission speed of one communication means is less than the rate assigned to the content for streaming can be realized.

In the Office Action, the Examiner relies on Naruse, Markman, Delavega and Omura for disclosing or suggesting all the features recited in independent claims 1 and 7-9. However, the Examiner relies primarily on Omura for disclosing or suggesting the features emphasized above in independent claim 1.

Omura discloses a data transfer method of stream data continuous in time series. As described in Omura, a request can be made by a client for a change of a rate in correspondence to the state of vacancy of a receiving buffer, and changes to a send rate are made on a server based on the request for change of the rate, thereby preventing any overflow of stream data from the receiving buffer.

In the Office Action, the Examiner relies specifically on col. 2, lines 60-62 of Omura for disclosing the claimed counter. However, Omura at col. 2, lines 60-62 discloses packet numbers indicating the packet order (see also Figs. 4 and 5, for example). As described in Omura, the

packet numbers are used for re-transferring lost packets to the packet transmitting means (see col. 9, lines 38 to 49; and col. 9, lines 58 to 67).

Thus, if Omura and Naruse, Markman, and Delavega were combined, the combination still would result in the loss of the data stored in a buffer in the case where the maximum value of the transmission speed of one communication means is less than the rate assigned to the content for streaming.

Based on the above discussion, no combination of Naruse, Markman, Delavega and Omura would result in, or otherwise render obvious, independent claims 1 and 7-9. Likewise, no combination of Naruse, Markman, Delavega and Omura would result in, or otherwise render obvious, claims 2-4, 10 and 11 at least by virtue of their respective dependencies from independent claims 1, 8 and 9.

With regards to claims 13-15, the claims depend from independent claim 12. As noted above, Naruse, Markman and Delavega fails to disclose or suggest all the features recited in independent claim 12. Moreover, Omura fails to overcome the deficiencies noted above in Naruse, Markman and Delavega. Accordingly, no combination of Naruse, Markman, Delavega and Omura would result in, or otherwise render obvious, claims 13-15 at least by virtue of their dependencies from independent claim 12.

In the Office Action, claims 5, 16 and 17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Naruse, Markman, Delavega, Omura, and further in view of Chinomi et al. (U.S. Pat. No. 7,228,137, hereafter "Chinomi").

Claim 5 depends from independent claim 1; and claims 16 and 17 depend from independent claim 12. As noted above, Naruse, Markman, Delavega and Omura fail to disclose or suggest all the features recited in independent claims 1 and 12. Additionally, Chinomi fails to overcome the deficiencies noted above in Naruse, Markman, Delavega and Omura. Accordingly, no combination of Naruse, Markman, Delavega and Omura with Chinomi would result in, or otherwise render obvious, claims 5, 16 and 17 at least by virtue of their respective dependencies from independent claims 1 and 12.

In light of the above, the Applicants respectfully submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the present application to issue.

The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

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February 17, 2010